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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,027	02/03/2004	Yung-Chieh Lo	251812-1220	2026

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EXAMINER

HOUSHMAND, HOOMAN

ART UNIT	PAPER NUMBER
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2465

MAIL DATE	DELIVERY MODE
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07/07/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/708,027	Applicant(s) LO ET AL.	
	Examiner Hooman Houshmand	Art Unit 2465	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 20-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 20-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/03/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 1, 9, 20 have been amended. Claims 17-19 have been canceled.
Claims 24-26 have been added. Claims 1-16, 20-26 are pending.

Drawings

2. Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated; since the applicant has stated, (date 04/15/2010, page 2, lines 16-18), that prior art teaches “*numerous small transfers are interleaved with fewer large transfers, fragment size is tuned for different circumstances to achieve the best aggregate throughput*”. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because:

The applicant has stated (date 04/15/2010, page 2, lines 12-13, “*In the gateway device, the fragment size is set at configuration time to 50%*”) that prior art teaches “wherein the

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remaining portion corresponds to half of the payload of the incoming packet” - a drawing labeled as --Prior Art-- that depicts this statement is required.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly

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those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The abstract of the disclosure is objected to because it only contains what is well known in the art. Correction is required. See MPEP § 608.01(b).

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following suggestion regarding the title is provided: The current title is well known in the art - it appears that the invention is directed towards a method of storage

(communication dated 03/20/2009, page 2 last paragraph through page 3 line 8). A title which describes the storage method would be a better indication of the invention.

Information Disclosure Statement

8. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

9. Page 1 [0004] lines 1-2 state: "*As stated in Requests for Comments (RFC) document number 2516, which is incorporated herein by reference*".

10. The *Requests for Comments (RFC) document number 2516* must be submitted in a proper information disclosure statement.

11. Figures 1-3 are labeled Prior art - the document that these figures originate from, must be submitted, in a proper information disclosure statement.

Claim Rejections - 35 USC § 101

12. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

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13. Claims 1-16, 20-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter - the claimed invention is directed to a judicial exception to 35 U.S.C. 101, an abstract idea.

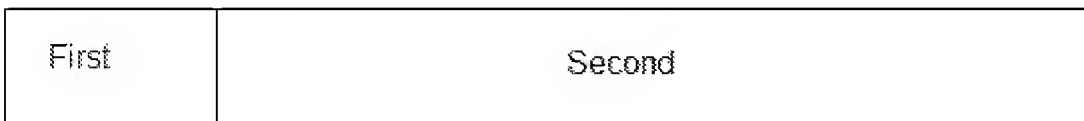
The claimed invention would impermissibly cover every substantial practical application of, and thereby preempt all use of, an abstract idea, natural phenomenon, or law of nature.

The claimed invention would impermissibly cover every substantial practical application of, and thereby preempt all use of, an abstract idea of taking a quantity, breaking the quantity into two pieces, wherein the first piece is smaller and the second piece is larger.

14. A drawing that illustrates the invention follows:
incoming packet:



fragmented packet:



The prior art teaches that

a) First and second portion are equal, or

b) First portion is larger than the second portion, or

c) First portion is smaller than the second portion.

Applicant states that under all possible physical conditions, "Condition c" is the only choice to be made.

However, it is well known that when a quantity is broken into two pieces, the resulting pieces are either equal or the first piece, is larger or smaller, than the second piece.

The invention appears to be distinguishing itself by stating that when the quantity is broken into two pieces, the first piece is, under all possible physical conditions, always smaller than the second piece.

The claimed invention would impermissibly cover every substantial practical application of, and thereby preempt all use of, an abstract idea of taking a quantity, breaking the quantity in two pieces, wherein the first piece is always smaller than the second piece.

Furthermore, the applicant has dismissed the prior art of ATM communication systems, in use, starting in the 1990s, which starts with "Condition c" - but recursively applies the same algorithm, namely taking the "Second portion" and applying the "Condition c" to it. In voice over internet communication systems, it is advantageous to fragment a large packet, and transmit a small packet first; take the remaining larger portion, fragment it again, and transmit another small packet, and so on and so forth. This action is needed, since in a real world communication system, packets are competing with other packets for bandwidth - small packets need to be transmitted to avoid communication

system congestion, thus permitting them to get to their destination, when a large packet would not reach its destination.

Applicant's statement that this technology (utilized in the marketplace starting in the 1990s) is not applicable, and taking congestion, in a real world communication system, into account, is improper hindsight gleaned from the applicant's own disclosure (priority date 02/03/2004); and further that the invention is different, since in the invention, the entire "Second portion" will be transmitted all at once, irrespective of the communication system congestion and other conditions - appears to be driving at an abstract concept.

In addition, the applicant has dismissed the prior art of (date 04/15/2010, page 2, lines 12-13, "*In the gateway device, the fragment size is set at configuration time to 50%*") and (date 04/15/2010, page 2, lines 16-18, "*numerous small transfers are interleaved with fewer large transfers, fragment size is tuned for different circumstances to achieve the best aggregate throughput*"). This prior art starts with "condition a" and then utilizes "condition b or c" to accommodate the availability of bandwidth to the gateway device. The applicant states that the prior art discloses "*fragment size is tuned*" and that the invention only utilizes "condition c" always, irrespective of whether there is available bandwidth to transmit a large "*fragment size*". The reason provided by the applicant is that the disclosed the invention is directed towards a method of storage (communication dated 03/20/2009, page 2 last paragraph through page 3 line 8), and utilization of "condition c" all of the time, irrespective of whether there is sufficient available bandwidth to transmit a large fragment, would lead to efficient utilization of memory

resources in the storage units contained in the gateway device. However, efficient utilization of memory resources in the storage units contained in the gateway device would not occur if there is insufficient bandwidth available to transmit a large fragment - since the large fragment would remain in the storage units and the storage units would not be freed for other utilization.

Since in the claimed invention, the entire "Second portion", large fragment, will have to be transmitted all at once, irrespective of the communication system congestion and other conditions (which is a physical impossibility - when there is insufficient bandwidth available to transmit a large fragment) - it appears that the claimed invention is directed towards an abstract concept.

Required information under 37 CFR 1.105

15. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

16. The *Requests for Comments (RFC) document number 2516* must be submitted (specification: page 1 [0004] lines 1-2 *incorporated herein by reference*).

17. Figures 1-3 are labeled Prior art - the document that these figures originate from, must be submitted.

18. In responding to those requirements that require copies of documents, where the document is a bound text or a single article over 50 pages, the requirement may be met by providing copies of those pages that provide the particular subject matter indicated in

the requirement, or where such subject matter is not indicated, the subject matter found in applicant's disclosure.

19. The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained may be accepted as a complete reply to the requirement for that item.

20. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

Claim Rejections - 35 USC § 112

21. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

22. Claims 1-16, 20-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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23. Independent claims require that *“after transmitting the first outgoing packet, the gateway device transmitting on the network connection the second outgoing packet being formed according to a remaining portion of the payload stored in the storage units” “the remaining portion corresponds to a majority of the payload of the incoming packet”* - consider *the first outgoing packet* containing one data byte, *the remaining portion corresponds to a majority of the payload of the incoming packet* - hence *the remaining portion* will be all of the data minus one byte. Now, consider a very common scenario in a communication system, congestion - the specification does not describe how *the gateway device* would be able to transmit a large block of data, when the communication system is so congested that only small data portions may be transmitted, at a time.

24. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

25. Claims 1-16, 20-26 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

Evidence that claims fail to correspond in scope with that which applicants regard as the invention can be found in the reply filed (communication dated 03/20/2009, page 2 last paragraph lines 5-6). In that paper, applicant has stated *“a significant benefit to this feature is a better utilization of buffers that are internal to the gateway units 112 and 114”*, and this statement indicates that the invention is different from what is defined in the claims because the invention originally claimed was directed at “method for fragmenting an incoming packet into a first outgoing packet and a second outgoing

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packet” versus the applicants regard as the invention an invention that is independent or distinct from the invention originally claimed namely “*better utilization of buffers that are internal to the gateway units 112 and 114*”. The applicant has received office actions on the merits for the originally presented invention, which had been constructively elected by original presentation for prosecution on the merits.

The - “*better utilization of buffers that are internal to the gateway units 112 and 114*” - invention is directed to a class/subclass which is different than the class/subclass searched regarding the claims elected in the original presentation.

26. Claims 1-16, 20-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

27. Independent claims require that “*after transmitting the first outgoing packet, the gateway device transmitting on the network connection the second outgoing packet being formed according to a remaining portion of the payload stored in the storage units*” “*the remaining portion corresponds to a majority of the payload of the incoming packet*” - consider *the first outgoing packet* containing one data byte, *the remaining portion corresponds to a majority of the payload of the incoming packet* - hence *the remaining portion* will be all of the data minus one byte. Now, consider a very common scenario in a communication system, congestion, it is unclear how *the gateway device* would be able to transmit a large block of data, when the communication system is so congested that only small data portions may be transmitted, at a time. It is unclear what this communication system is - since it would not be physically realizable.

Response to Arguments

28. Applicant's arguments filed 04/15/2010 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hooman Houshmand whose telephone number is (571)270-1817. The examiner can normally be reached on Monday - Friday 8am - 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/H. H./
Examiner, Art Unit 2465

/Jayanti K. Patel/
Supervisory Patent Examiner, Art Unit 2465